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**(54) COLLISION DETECTING DEVICE FOR
COMMON SPECTRUM MULTIPLE ACCESS
(CSMA)****(57) Abstract:**

PURPOSE: To obtain a collision detecting device for CSMA, which is capable of detecting a collision in all states of a signal on a transmission line, by providing a circuit for detecting a fact that signal amplitude on the transmission line does not shown a state variation.

CONSTITUTION: In case of a regular collision, the collision can be detected by steering the reference voltage V_2 of the second comparator 502 to about the center of $-A$ and $-2A$. on the other hand, in case when two colliding send-out signals generate a signal pattern of entirely opposite polarity, the signal amplitude remains $-A$ and no variation is generated in the amplitude as shown by a broken line, after t_1 . Accordingly, in this case, the condition that the signal amplitude is below V_1 and above V_2 is taken by the first and the second logical circuits 504, 505, and also the fact that

there is no state variation of the signal is executed by a monostable multivibrator 503, by which the collision is detected.

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